



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,286	01/16/2002	Mitsuo Horikawa	05711.0137	2337
22852	7590	04/18/2005	EXAMINER	
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413			BOYD, JENNIFER A	
			ART UNIT	PAPER NUMBER
			1771	

DATE MAILED: 04/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/046,286

Applicant(s)

HORIKAWA, MITSUO

Examiner

Jennifer A. Boyd

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2/2/05.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-5 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The Applicant's Amendments and Accompanying Remarks, filed February 2, 2005, have been entered and have been carefully considered. Claim 1 is amended and claims 1 – 5 are pending. In view of Applicant's amendment requiring that that all the warps are made of polyester, the Examiner withdraws the previously set forth rejection as detailed in paragraphs 4 – 5 of the Office Action dated November 4, 2004. In view of Applicant's amendment, the Examiner withdraws the 35 USC 112, 2nd paragraph rejection as detailed in paragraph 8 of the Office action dated August 26, 2003. After an updated search, additional prior art has been found. The invention as currently claimed is not found to be patentable for reasons herein below.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. Claims 1 - 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsushima (US 6,505,652) in view of Matsuda et al. (US 6,006,552).

Matsushima is directed to a slide fastener tape (Title).

As to claim 1, Matsushima teaches a fastener tape comprising a woven material containing a main tape portion 4, a core string 9 and flexible yarns 6 (See Figure 1 and column 3, lines 25 – 65). The main tape portion 4 comprises yarns of synthetic fibers such as polyethylene terephthalate warp yarns 2 and weft yarns 3 (column 3, lines 35 – 45). The core string also

Art Unit: 1771

comprises synthetic fibers such as polyethylene terephthalate fibers (column 3, lines 3, lines 60 – 65). The flexible yarns 6 also can comprise synthetic fibers such as polyethylene terephthalate (column 3, lines 50 – 55). As shown in Figure 1, the flexible yarns 6 are situated between the warp yarn 2 of the main tape portion 4 and the core string 9. The Examiner equates the warp yarns 2 of the main tape portion 4 to Applicant's "foundation warp", the core string 9 to Applicant's "core string" and the flexible yarns 6 to Applicant's "warp disposed between the core string and tape main portion".

As to claim 2, Matsushima teaches that the warp yarns 2 of the main tape portion 4, or "foundation warp", comprise at least two yarns which are parallel to each other (See Figure 1).

As to claim 4, Matsushima teaches that the weft yarns 3 comprises two paralleled yarns (See Figure 1).

Matsushima fails to teach that the main tape portion, or "foundation warp", has a lower thermal contraction coefficient than warps used for the flexible yarns or "warp disposed between core string and tape main portion", the flexible yarns or "warp disposed between core string and tape main portion" have a thermal contraction coefficient greater than main tape portion, or "foundation warp" and lower than the "core string", and the "core string" has the highest thermal contraction coefficient than all the warps.

Matsuda et al. is directed to knitted slide fastener (Title). The slide fastener includes a successive fastener element row fixed by at least a wale of fixing knitting yarn, the fastener element row being knitted, simultaneously with knitting of a fastener tape, into a fastener

Art Unit: 1771

element attaching portion at a longitudinal side edge portion of the fastener tape formed of a warp-knit foundation structure. The foundation structure of the fastener element attaching portion is formed of at least a part of the fixing knitting yarns and other knitting yarns. All of the knitting yarns have heat contraction rates higher than at least that of the knitting yarns forming the foundation structure of the fastener tape main body portion. In this slide fastener, by setting a relationship between respective heat contraction rate of yarns forming the fastener element attaching portion and the fastener element row in the above manner, the yarns forming the fastener element attaching portion contract more largely than the yarns forming the fastener tape main body portion through a heat treatment after knitting. The shape of the fastener element attaching portion is further stabilized, the fastener element has a high coupling strength and the hand and appearance of the fabric is improved (column 2, lines 20 – 65). Additionally, the fastener element becomes substantially straight or the element row slightly curves to project inward, thereby facilitating succeeding operations such as sewing of the completed fastener (column 3, lines 1 – 14). The warp in-laid yarn have a thermal contraction rate between 15 – 40%, the fixing chain stitch yarns have a rate of 10 – 30% and the fastener element row has a rate of 3 – 18% (column 6, lines 35 – 69).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to create the fastener tape of Matsushima with the relative thermal contraction rates of Matsuda motivated by the desire to create a fastener tape having high stability, high coupling strength and improved hand and appearance.

As to claims 3 – 4, Matsushima discloses the claimed invention except for that the value of tex of the foundation warp in the tape main portion is set to be larger than the value of tex of the yarn composing the warp disposed between the core string and the tape main portion as required by claim 3 and the value of tex of the total thickness of the two paralleled yarns of the weft is set to be smaller than the value of tex of the total thickness of the two paralleled warp adjacent to the core string. It should be noted that the value of tex and thickness of yarns is a result effective variable. For example, as the value of tex or thickness increases, the yarn and material become stronger and more dimensionally stable. As the value of tex or thickness decreases, the yarn and material becomes more pliable. It would have been obvious to one having ordinary skill in the art at the time the invention was made to create a fastener stringer with the value of tex of the foundation warp in the tape main portion is set to be larger than the value of tex of the yarn composing the warp disposed between the core string and the tape main portion as required by claim 3 and the value of tex of the total thickness of the two paralleled yarns of the weft is set to be smaller than the value of tex of the total thickness of the two paralleled warp adjacent to the core string since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to optimize the tex and thickness of the foundation warp, the warp disposed between the core string and tape main portion and the paralleled weft yarns to allow maximum flexibility to allow easy connection to a garment, for instance, and sturdiness on the edge portion next to the core string to ensure proper strength when zipping.

Art Unit: 1771

As to claim 5, Matsushima discloses that that the flexible yarns 6 are bulked (column 3, lines 50 – 55) and the core string 9 is a multi-filament twisted yarn (column 3, lines 60 – 65), which result in textured yarns. Matsushima notes that the texturing of the yarns maintains the stability of the fastener tape (Abstract). Matsushima fails to teach that the warp yarns 2 and weft yarns 3 of the main tape portion 4 comprise textured yarn. It would have been obvious to one having ordinary skill in the art at the time the invention was made to create a slide fastener tape with warp yarns 2 and weft yarns 3 of the main tape portion 4 comprise textured yarn since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of design choice. *In re Leshin*, 125 USPQ 416. In the present invention, one would have been motivated to use textured yarns for the warp and weft yarns of the main tape portion to improve the stability of the structure.

Response to Arguments

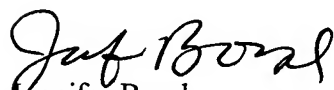
4. Applicant's arguments with respect to claims 1 – 5 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Boyd whose telephone number is 571-272-1473. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1771

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jennifer Boyd
April 13, 2005



Ula C. Ruddock

Primary Examiner
Tech Center 1700